

US Patent 5,611,049, Claim 16:

16. A network of digital computers that includes a first plurality of client sites which request access to a stored dataset that is stored at a location that can be accessed through the network, the network comprising:

a second plurality of NDC sites, the stored dataset whose access is requested by the client sites being stored at an NDC server terminator site, a request from the client sites for access to the stored dataset being received by a third plurality of NDC client terminator sites, each NDC site including:

- (a) an NDC that has an NDC buffer;
- (b) means for the NDC to receive the request to access the stored dataset;
- (c) means for the NDC to check the NDC buffer at this NDC site to determine if a projected image of data requested from the stored dataset is already present there, wherein:

i. if the NDC buffer of this NDC site does not contain a projected image of all data requested from the stored dataset, and if this NDC site is not the NDC server terminator site for the stored dataset, the NDC includes means for transmitting a request for data from this NDC site downstream to another NDC site closer to the NDC server terminator site for the stored dataset than the present NDC site;

ii. if the NDC buffer of this NDC site does not contain a projected image of all data requested from the stored dataset, and if this NDC site is the NDC server terminator site for the stored dataset, the NDC including means for accessing the stored dataset to project an image of the requested data into the buffer of this NDC; and

iii. if the NDC buffer of an NDC site contains a projected image of all requested data, the NDC including means for returning the data requested from this NDC site upstream to the NDC site from which this NDC site received the request, whereby through a succession of such returns of data from one NDC site to the next upstream NDC site the requested data ultimately arrives at the NDC client terminator site, each NDC site that returns data upstream to the requesting NDC site retaining a copy of the returned data that the returning NDC site may subsequently transmit to an NDC site other than the NDC site to which the returning NDC site first returned the data, whereby images of the stored dataset may be projected concurrently from a single NDC site into the third plurality of NDC client terminator sites; and

(d) means for the NDC client terminator site to return the requested data to the client site that requested access to the stored dataset.

BorderManager - Three Ways to Deliver Cached Performance to Your Intranet and Internet Users (AppNote)

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SEPTEMBER 1997

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Three Ways to Deliver Cached Performance to Your Intranet and Internet Users

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Network engineers and administrators are constantly trying to squeeze the highest performance out of their systems using the most cost-effective means available. Yet the widespread deployment of Internet and intranet connections has imposed new requirements that seem to be in conflict with these efforts to enhance network performance. Comprehensive security restrictions, access controls, and content filtering are crucial aspects of securing the intranet and connecting to the Internet, but they exact an additional performance penalty in an environment where users are already frustrated by busy Web servers and long response times.

Novell's BorderManager includes an Internet object cache that significantly increases the speed of web access. In the process, this technology provides a performance foundation to support your network infrastructure and offset the performance penalty you pay for the necessary security controls and filtering.

This AppNote provides an overview of BorderManager's caching technology and discusses the advantages of caching in intranet and Internet environments. It then describes three applications of Novell's Internet object cache that provide significant benefits to intranet and Internet users:

- Proxy caching
- Proxy cache hierarchies
- Web server acceleration

For more information on BorderManager and other AppNotes regarding these technologies, visit the Novell World Wide site at <http://www.novell.com/bordermanager>.

What is Caching?

During the 1960s, computer designers discovered that much of the program code their systems were executing was extremely repetitive—small portions of the code would be processed over and over again. Using this insight to their advantage, they began storing the repetitive portions of their programs in a

<http://www.novell.com/bordermanager/performance.html> (1/11/97) (3/26/98) (5/3/98) (7/4/97)

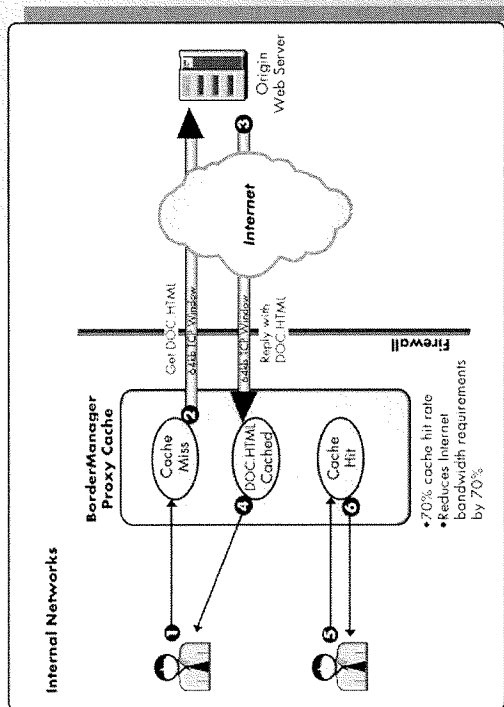


Figure 5

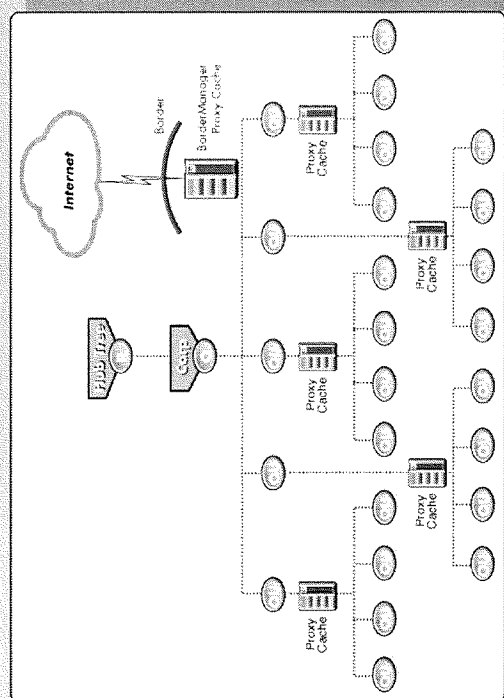


Figure 6

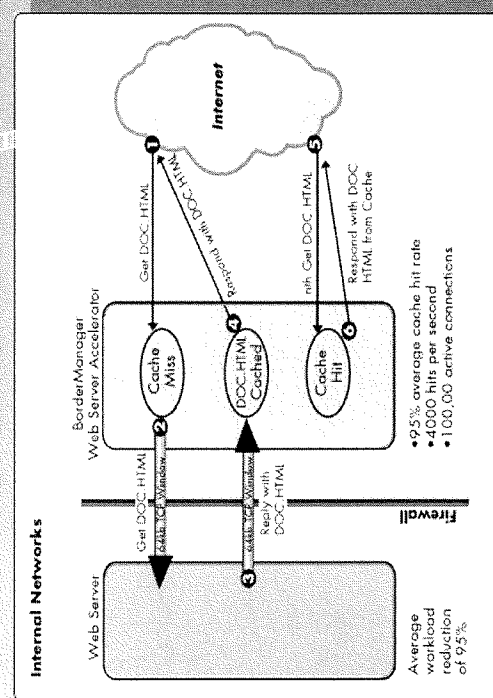


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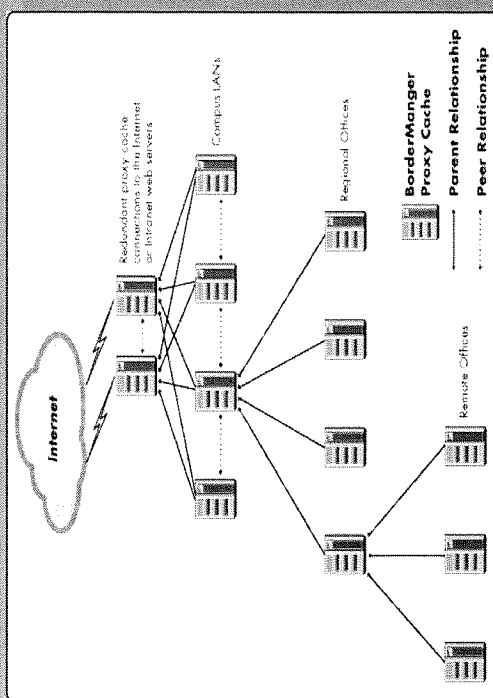


Figure 7

16. A network of digital computers that includes a first plurality of client sites which request access to a stored dataset that is stored at a location that can be accessed through the network, the network comprising:

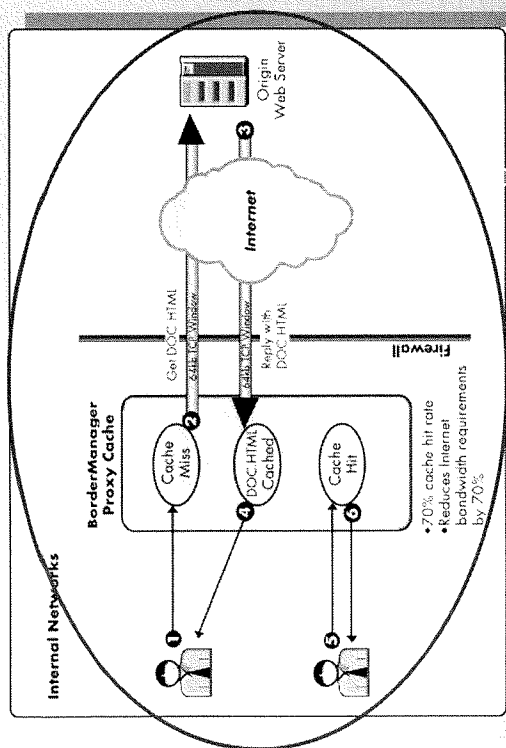


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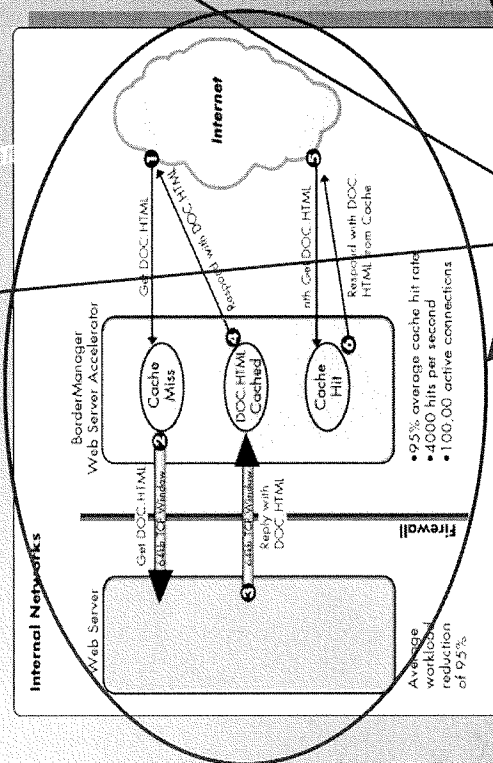


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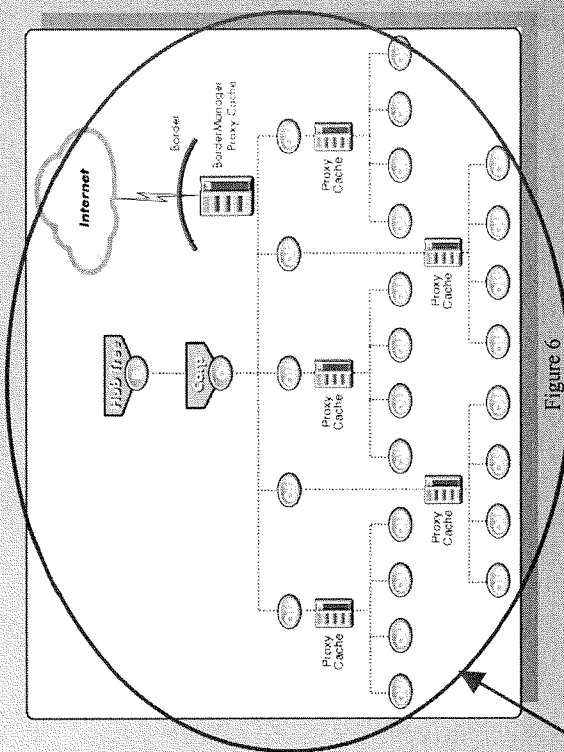


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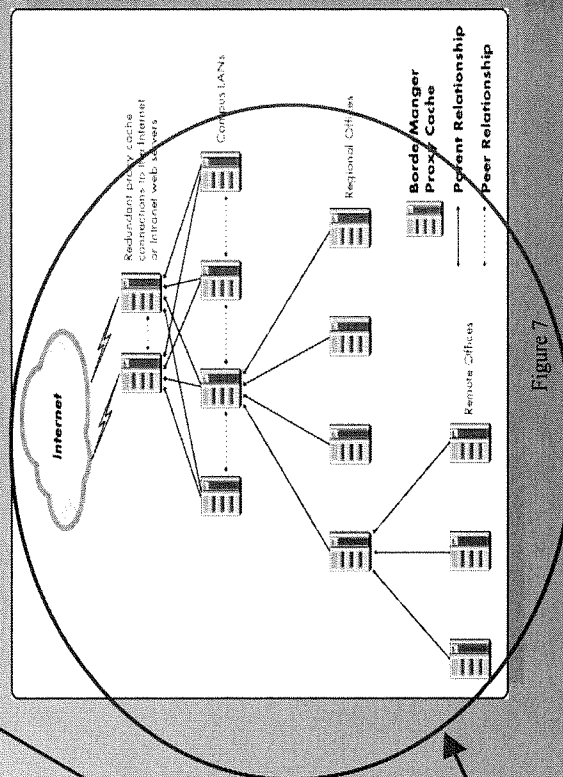


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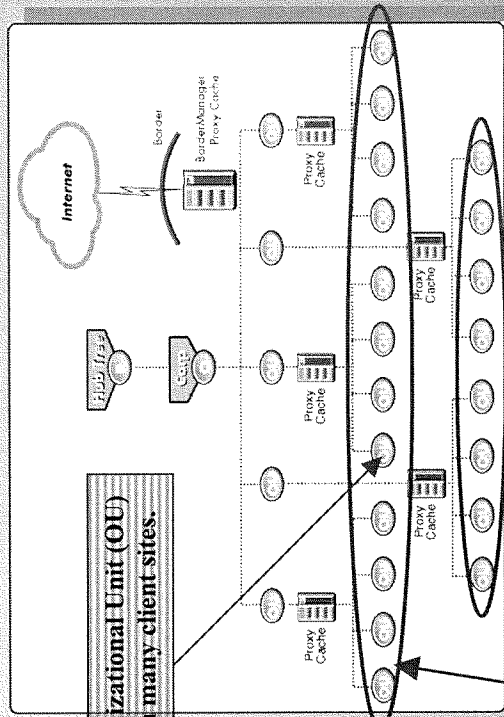


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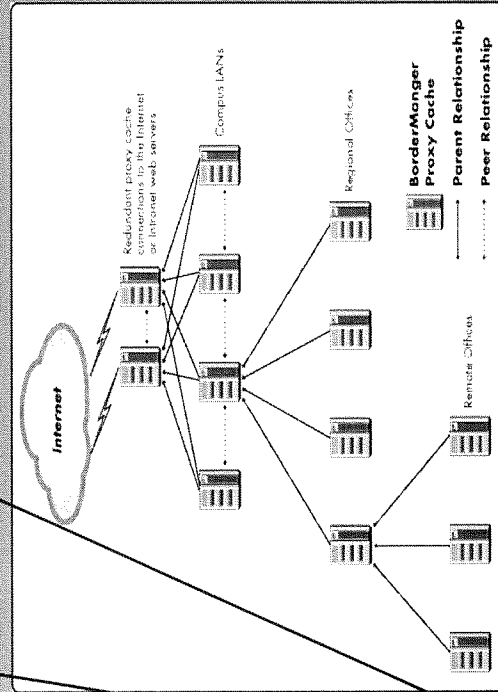


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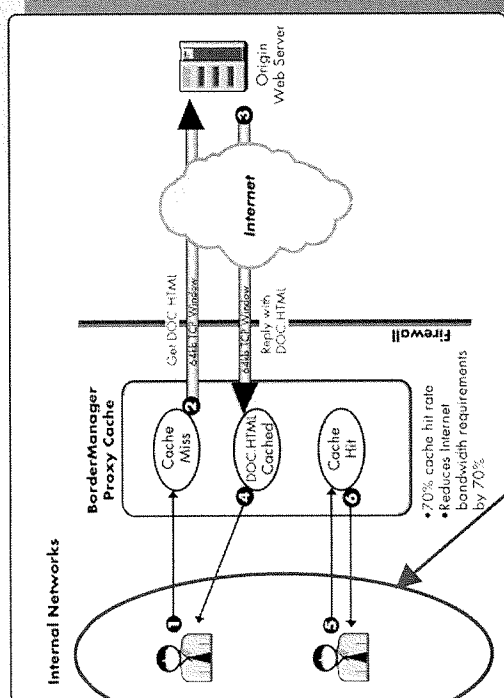


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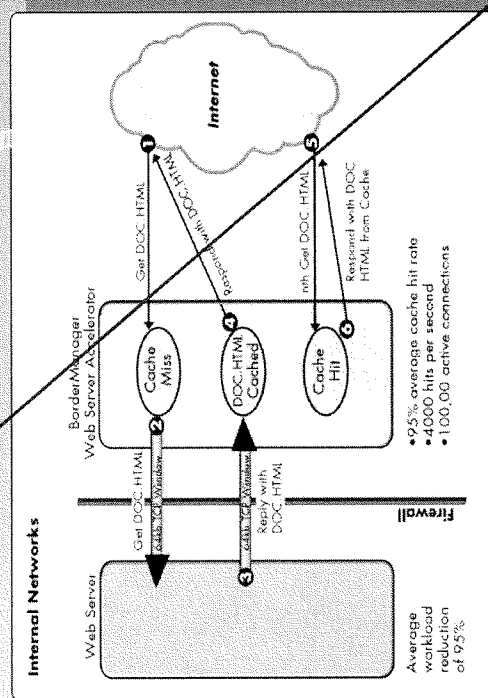


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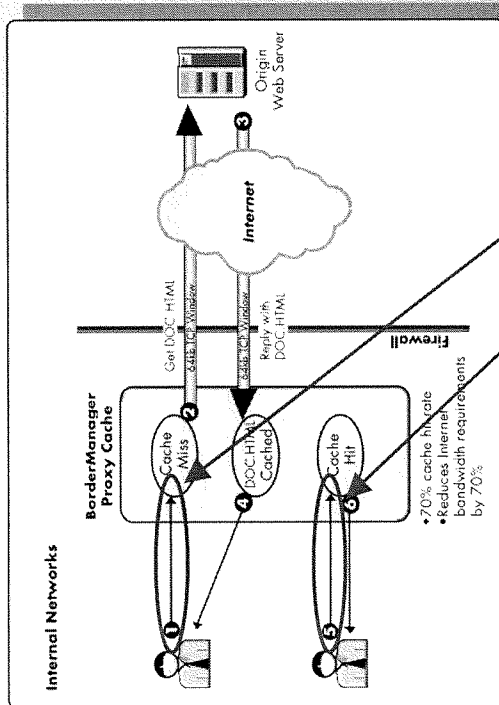


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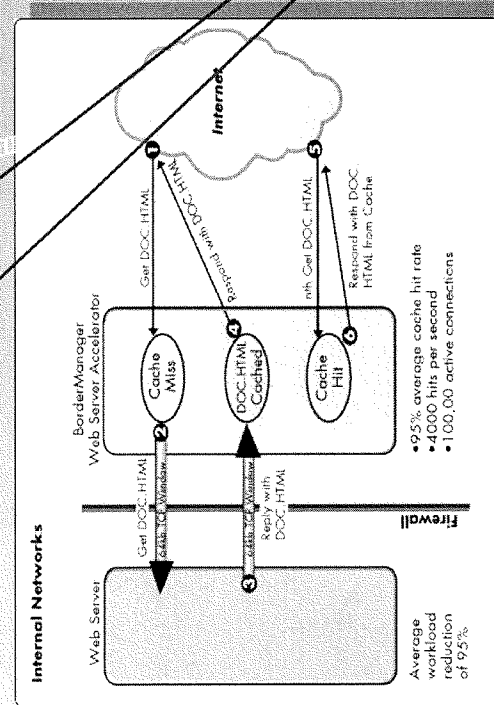


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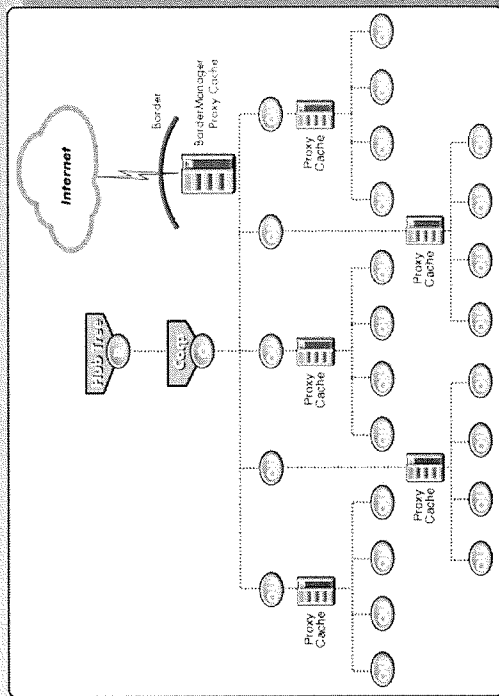


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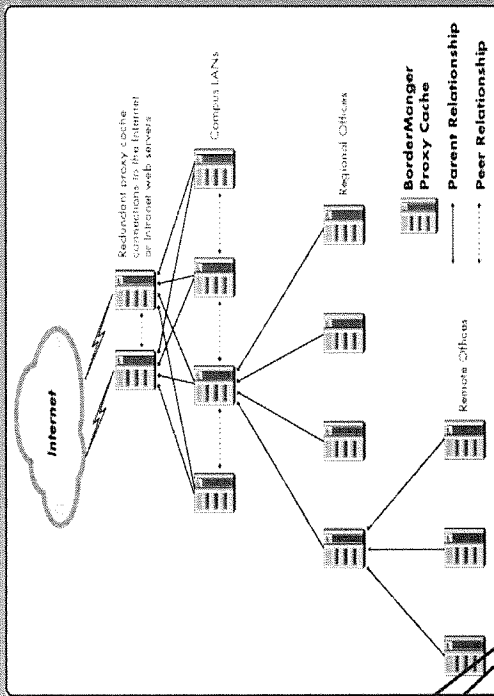


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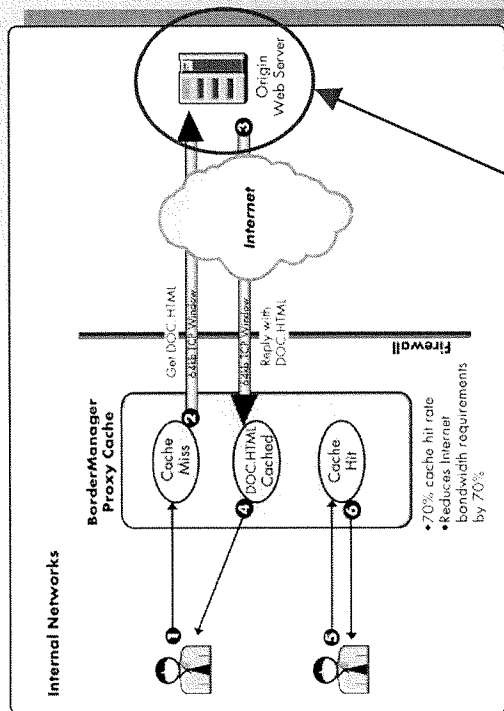


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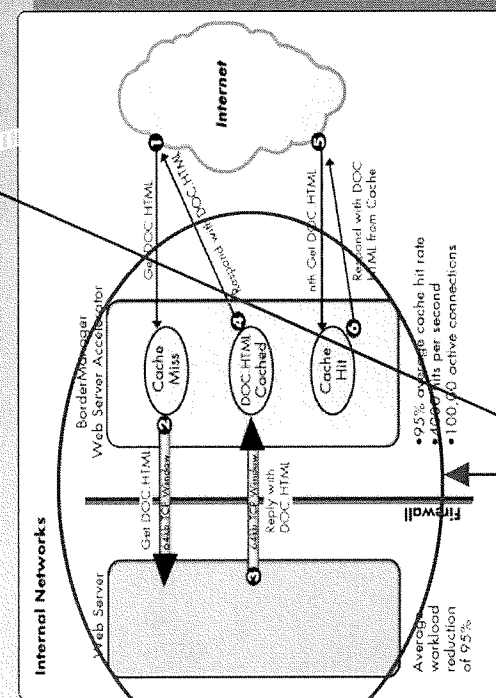


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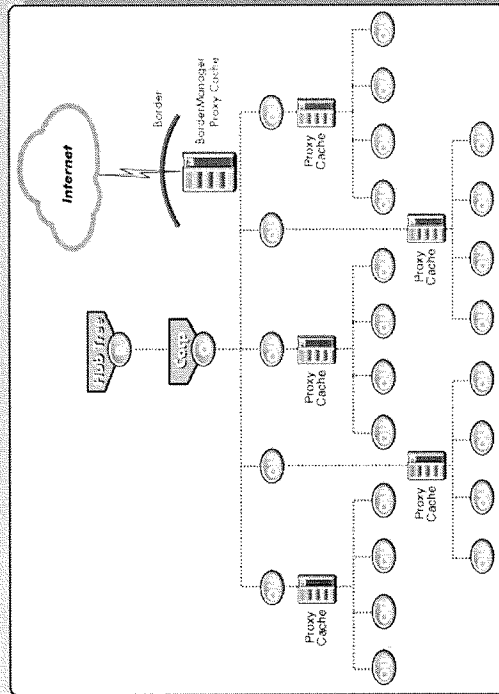


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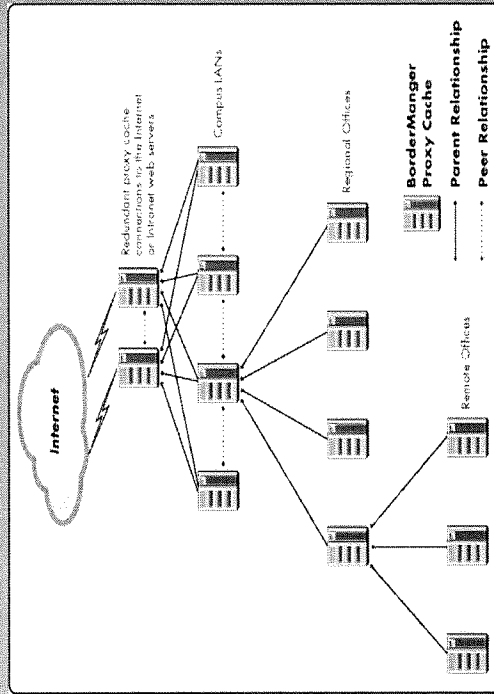


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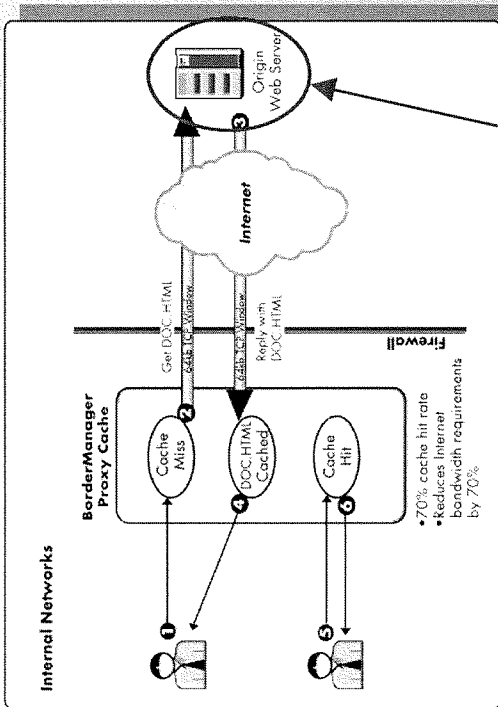


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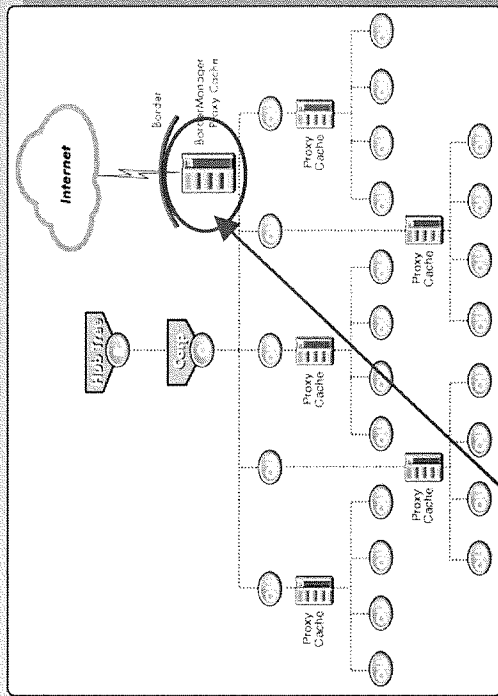


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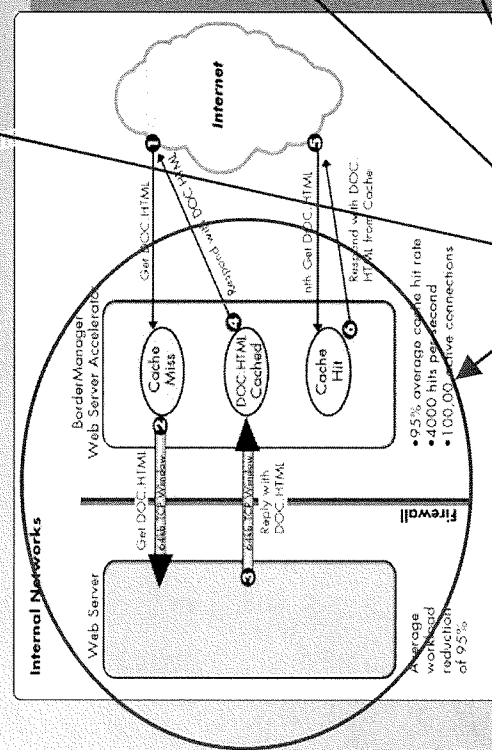


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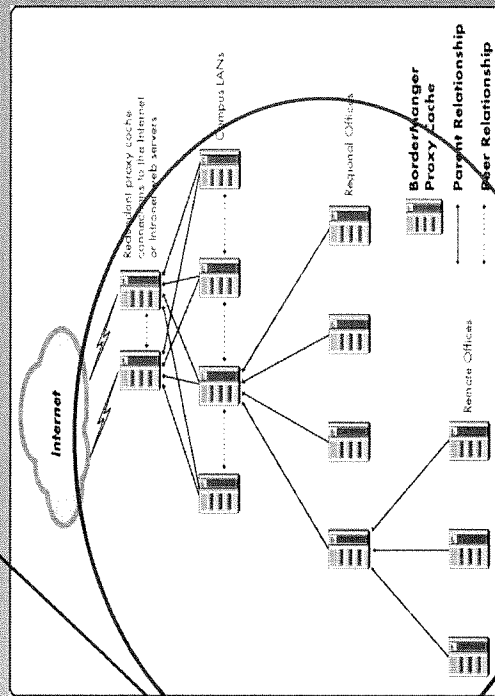


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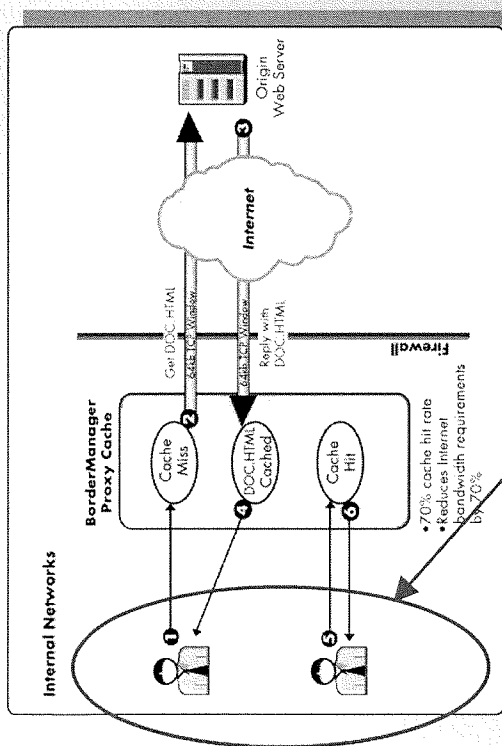


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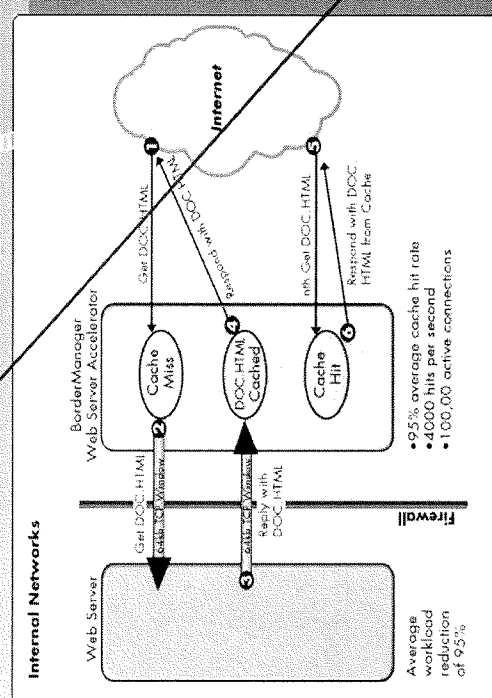


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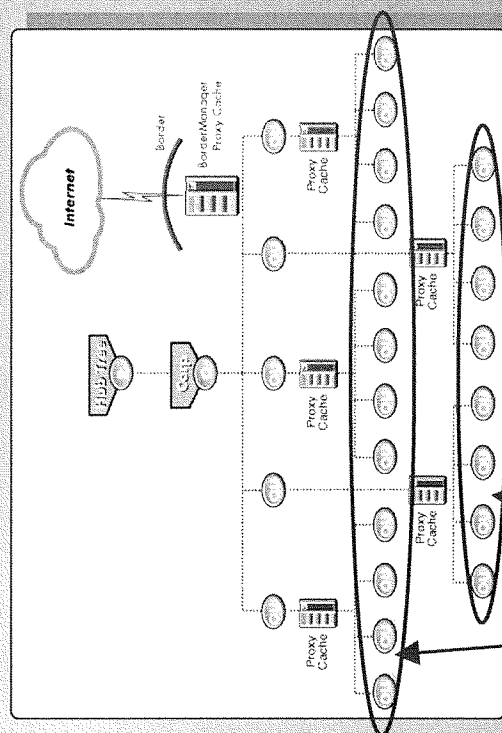


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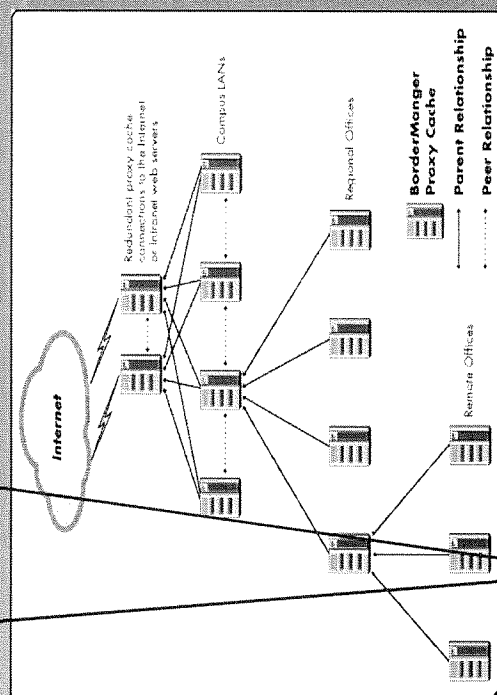


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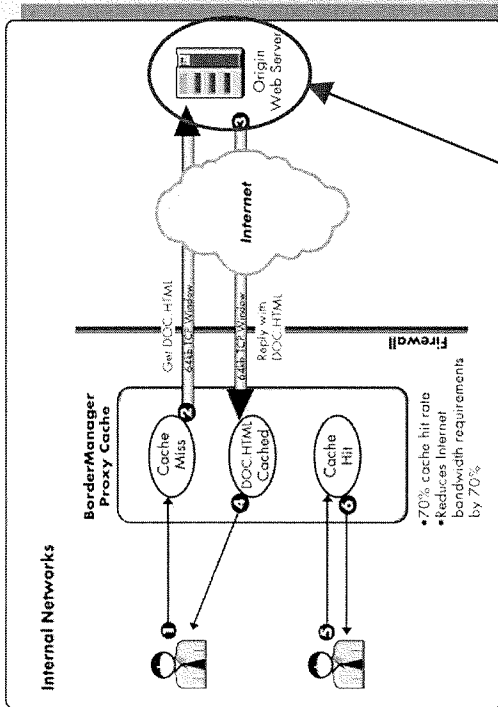


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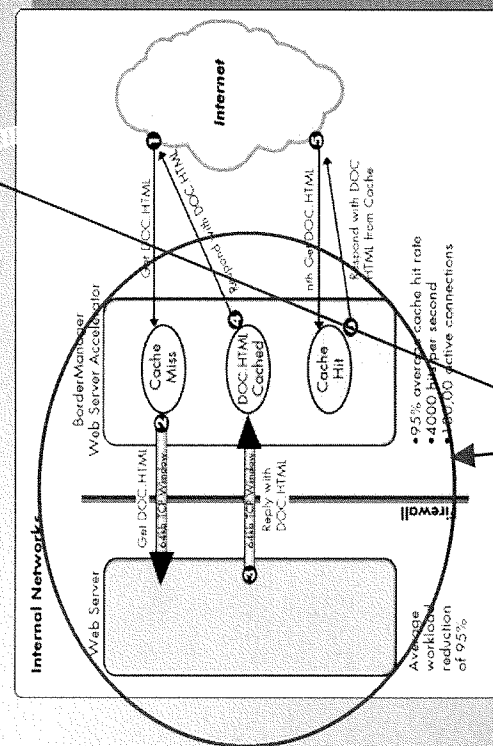


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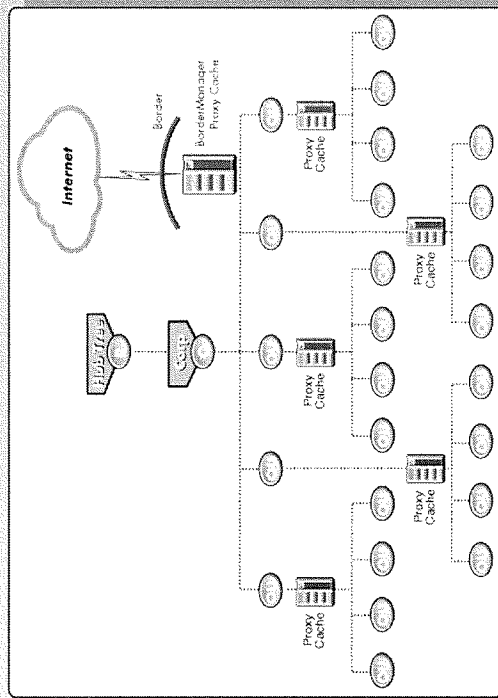


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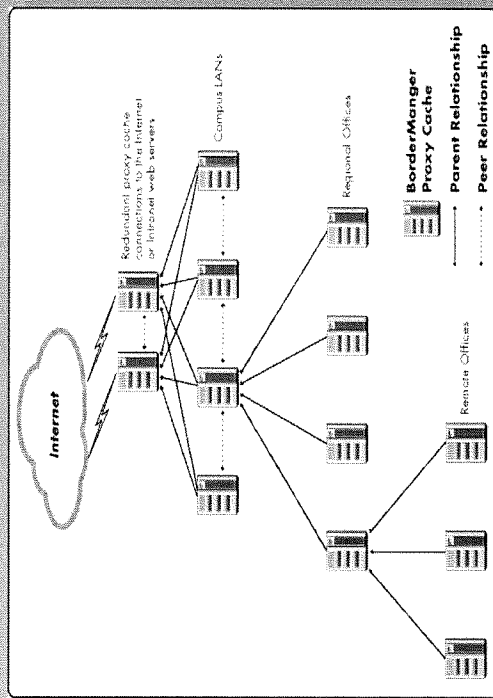


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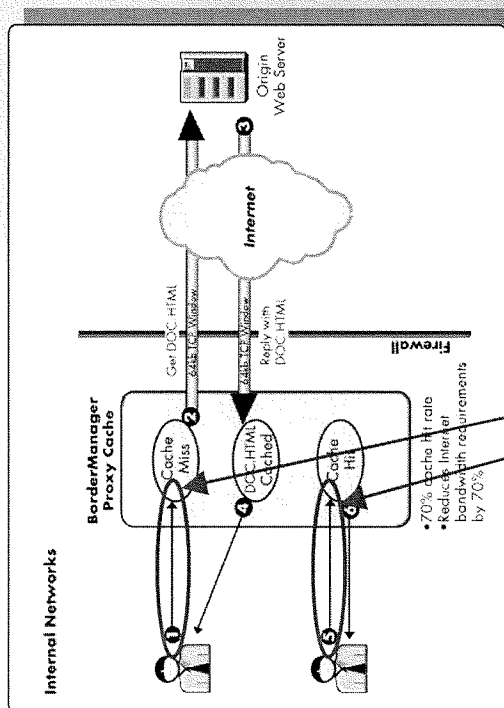


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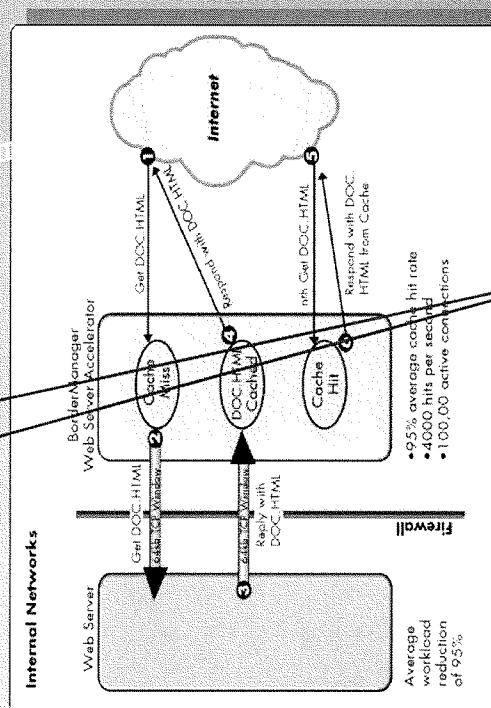


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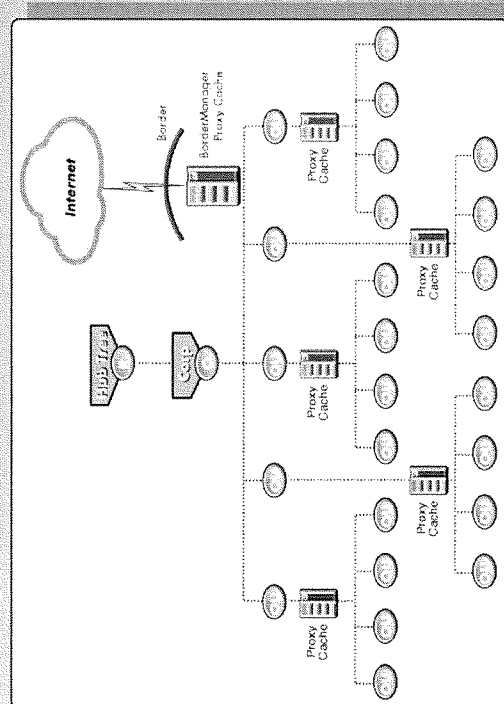


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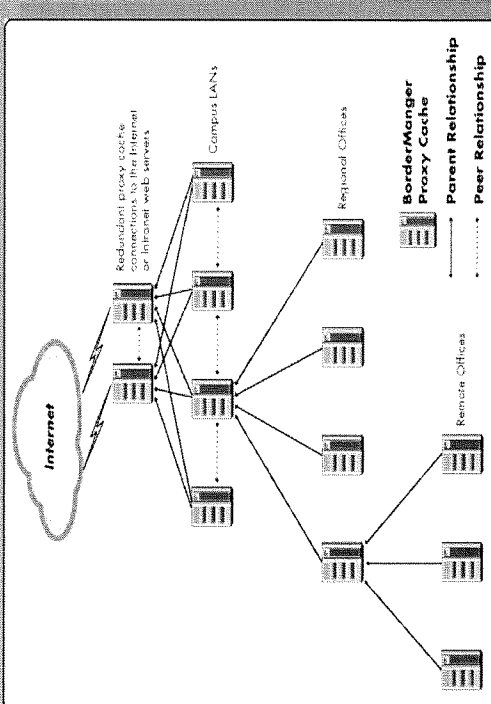


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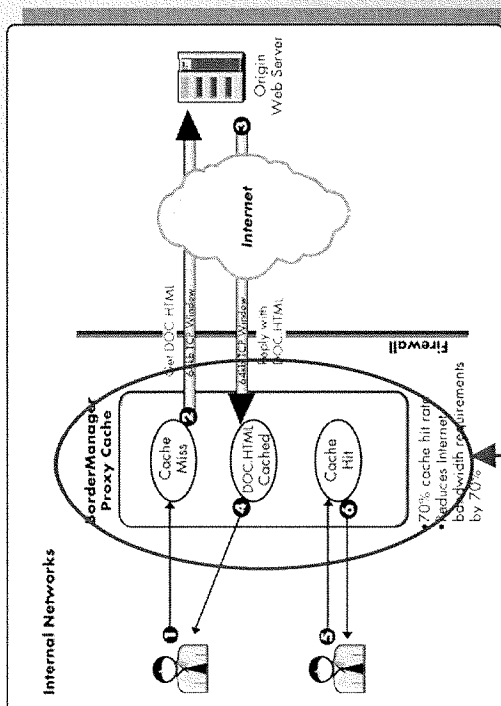


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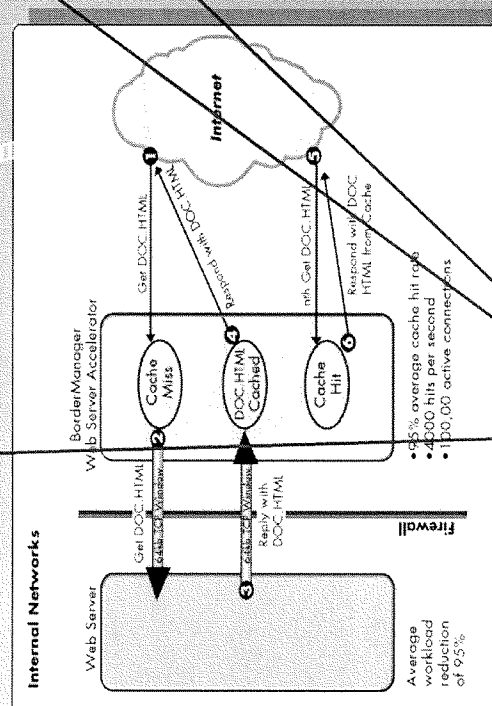


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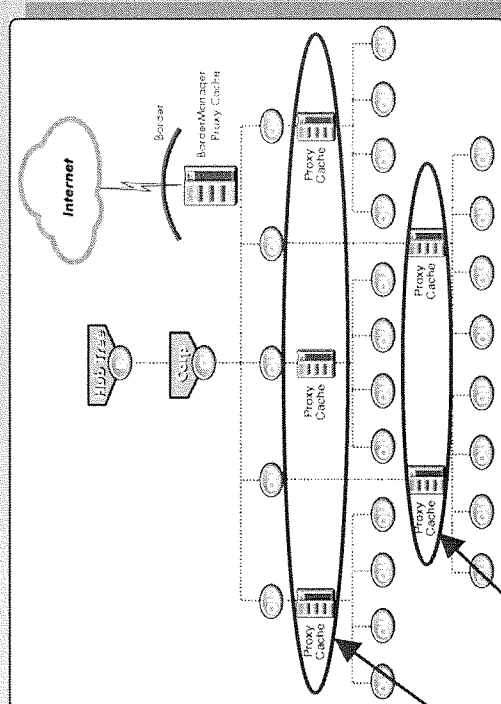


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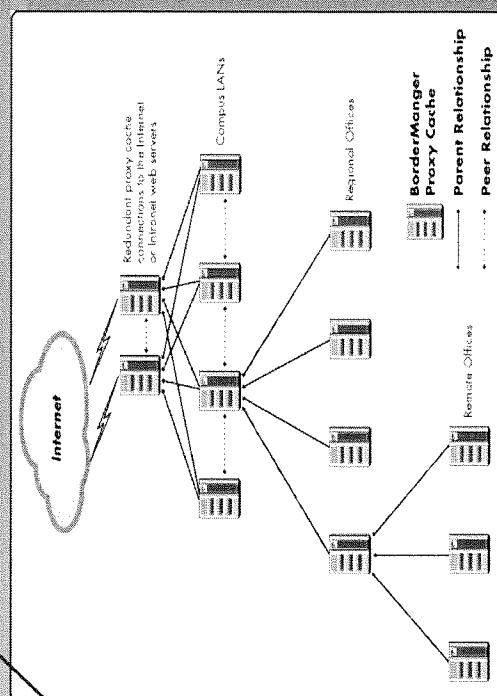


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